

Microbe Magic Experiments

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Healthy living – How cabbage can tell if something is an acid or an alkali

The humble cabbage is very smart – it can tell if something is an acid or an alkaline substance! Try the following experiment to see how much acids are in the foods you eat.

What you will need

A head of red cabbage

Two bowls

A grater

A sieve or colander

Plastic cups

Baking soda

Liquids like vinegar, citrus juice (lemon or orange juice), tea, coffee, fizzy drink, water.....whatever liquids you like to test!

What to do:

- Grate some of the red cabbage into a bowl and cover with cold water.
- Put aside for 45 minutes, making sure that all of the cabbage is under water the entire time.
- Strain the cabbage and water through the sieve or colander into a clean bowl.
- Pour an equal amount (about half a cup) of the cabbage juice into each of the plastic cups you are using. You will use one of the cups as a control.
- Add 1 teaspoon of baking soda to all of the cups *except* the control.
- The baking soda will turn your red cabbage juice blue because this is an alkaline.
- You can test the liquids you have collected to see if they are acidic or alkaline.
 - If you add the liquid and your cabbage juice turns red, it is an acid (remember you have the control to compare this with). Remember, it can take quite a lot of a liquid sometimes for the colour to change. This means it is just mildly acidic.
 - If you add the liquid and your cabbage juice stays blue, no matter how much you add, it is most likely an alkaline.
- You can test lots of different liquids using this method. You can keep a log of how much of each liquid it took to turn the blue cabbage juice back to its red colour. You can also measure how much of a liquid you need to change the cabbage juice from red to blue in the first place (just remember not to put in any baking soda!).